Accuphase

INTEGRATED STEREO AMPLIFIER E-303

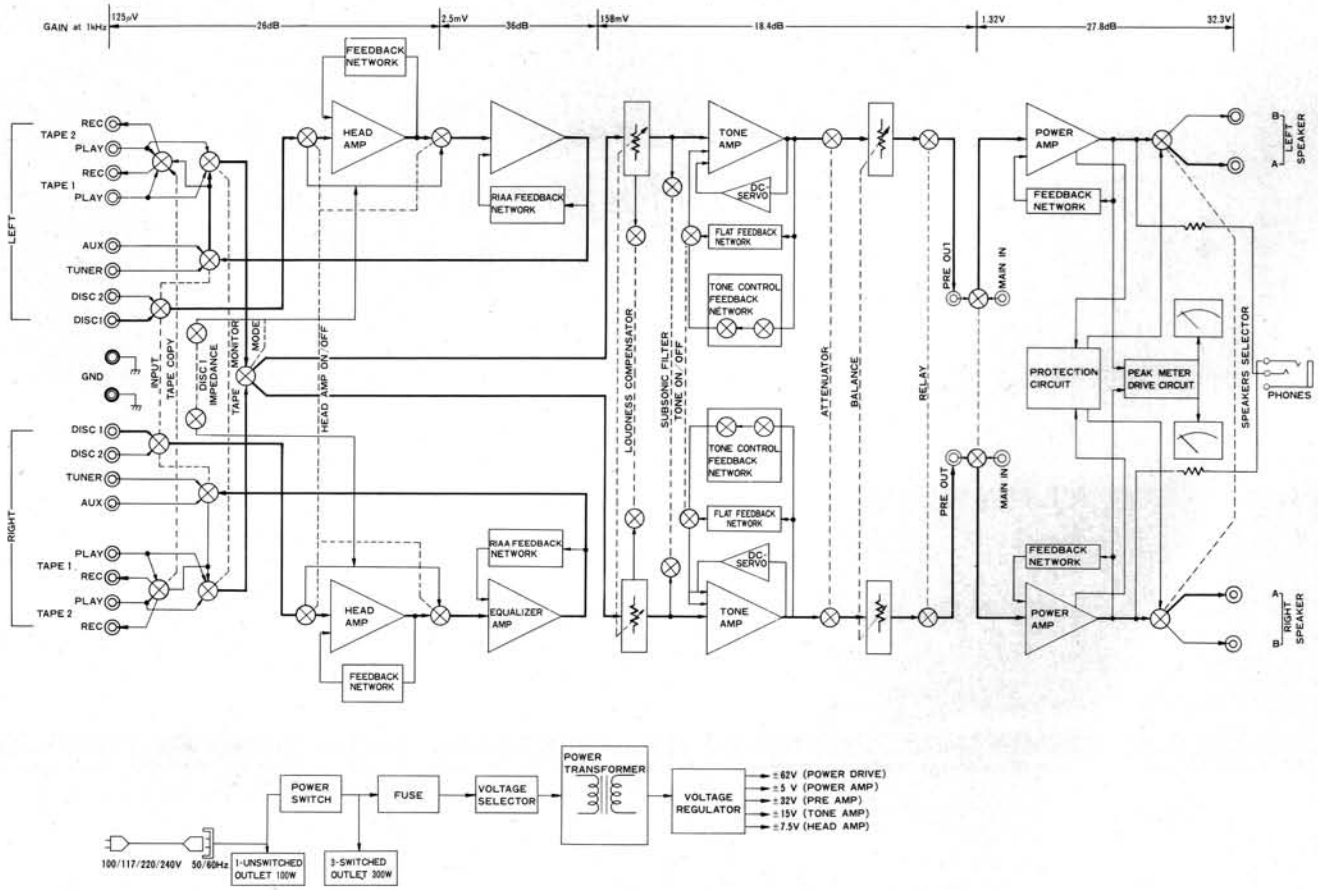
Service Information

STARTING WITH SERIAL NO.G8Y001

TABLE OF CONTENTS

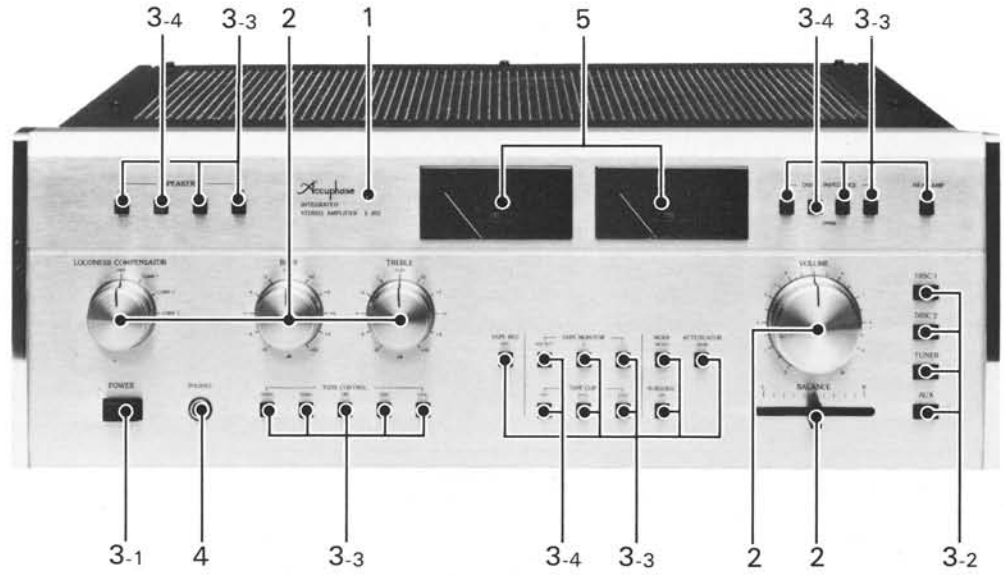
EXTERNAL VIEW 1
INTERNAL VIEW 2
EXPLODED VIEW 3
MISCELLANEOUS 4
SEMICONDUCTORS 4
TONE AMP. ASSEMBLY 5
TAPE MONITOR SWITCH ASSEMBLY 5
METER LEVEL CONTROL ASSEMBLY 5
EQUALIZER AMP. ASSEMBLY 6, 7
TONE CONTROL SWITCH ASSEMBLY 8
RELAY CIRCUIT ASSEMBLY 8
POWER AMP. ASSEMBLY 9
POWER SUPPLY CIRCUIT ASSEMBLY 10
CIRCUIT DESCRIPTION 11
CIRCUIT ADJUSTMENT 12
SCHEMATIC DIAGRAM 13, 14
SPECIFICATIONS 15

BLOCK DIAGRAM

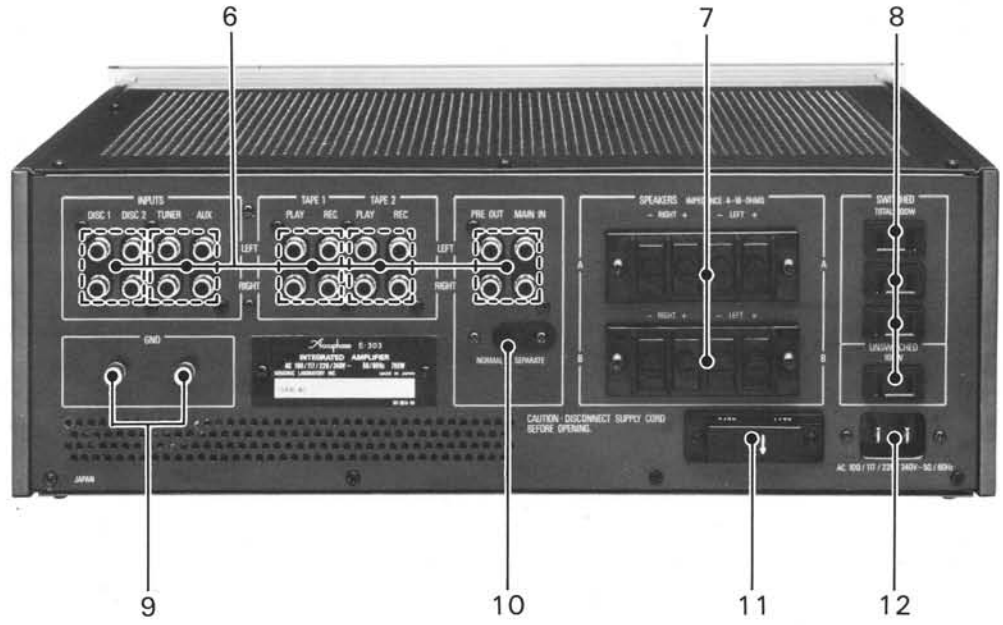


EXTERNAL VIEW

●FRONT



●REAR



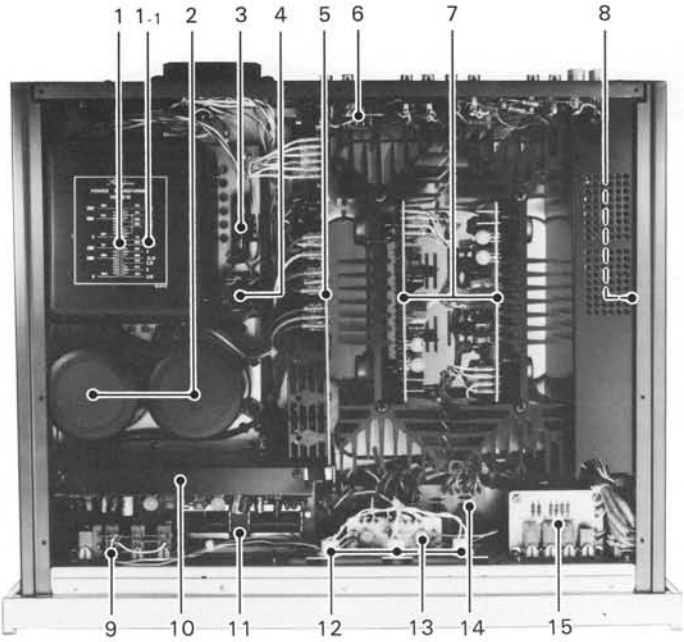
●PARTS LIST

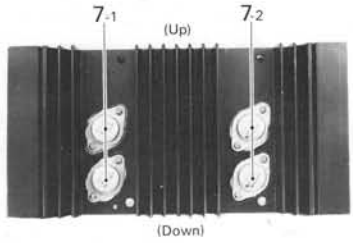
No.	Description	Part No.	Remarks
1	Front Panel Assembly	130−0016−02	See Exploded View No. 1
2	Knob for		See Exploded View No. 3, No. 4
	VOLUME	381−4011−04	40mm dia.
	BASS, TREBLE COMPENSATOR	381−3007−04	30mm dia.
	BALANCE	389−5007−04	
3	Push-button for		See Exploded View No. 5
3_{-1}	POWER	389−5006−04	
3_{-2}	Selector−DISC1, 2 etc.	389−5005−04	
3_{-3}	SPEAKERS, DISC IMP, TONE, TAPE etc.	389−5004−04	Brown color
3_{-4}	SPEAKERS, DISC IMP, TAPE	389−5008−04	Red color
4	Phone Jack	302−1302−00	

No.	Description	Part No.	Remarks
5	Meter	178−2006−00	
6	Pin Jack	302−0402−00	4P
7	Speaker Terminal	313−5041−00	
8	AC Outlet	305−1203−00	Not available for European Model
9	Ground Terminal	314−0102−00	
10	Slide Switch	350−1201−00	
11	Voltage Selector Jack	302−4001−00	
	Voltage Selector Plug	301−4001−00	
	Fixed Bracket	248−0022−04	
12	AC Connector Plug	301−3201−00	
		301−3301−00	for European Model

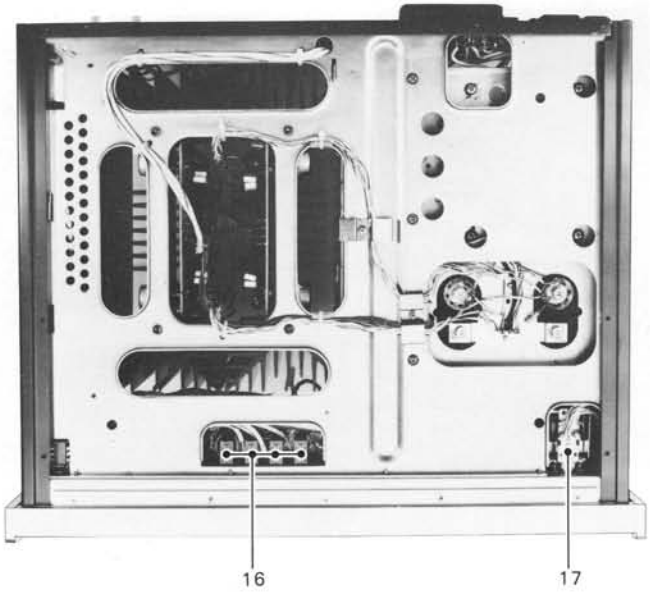
INTERNAL VIEW

●TOP





●BOTTOM

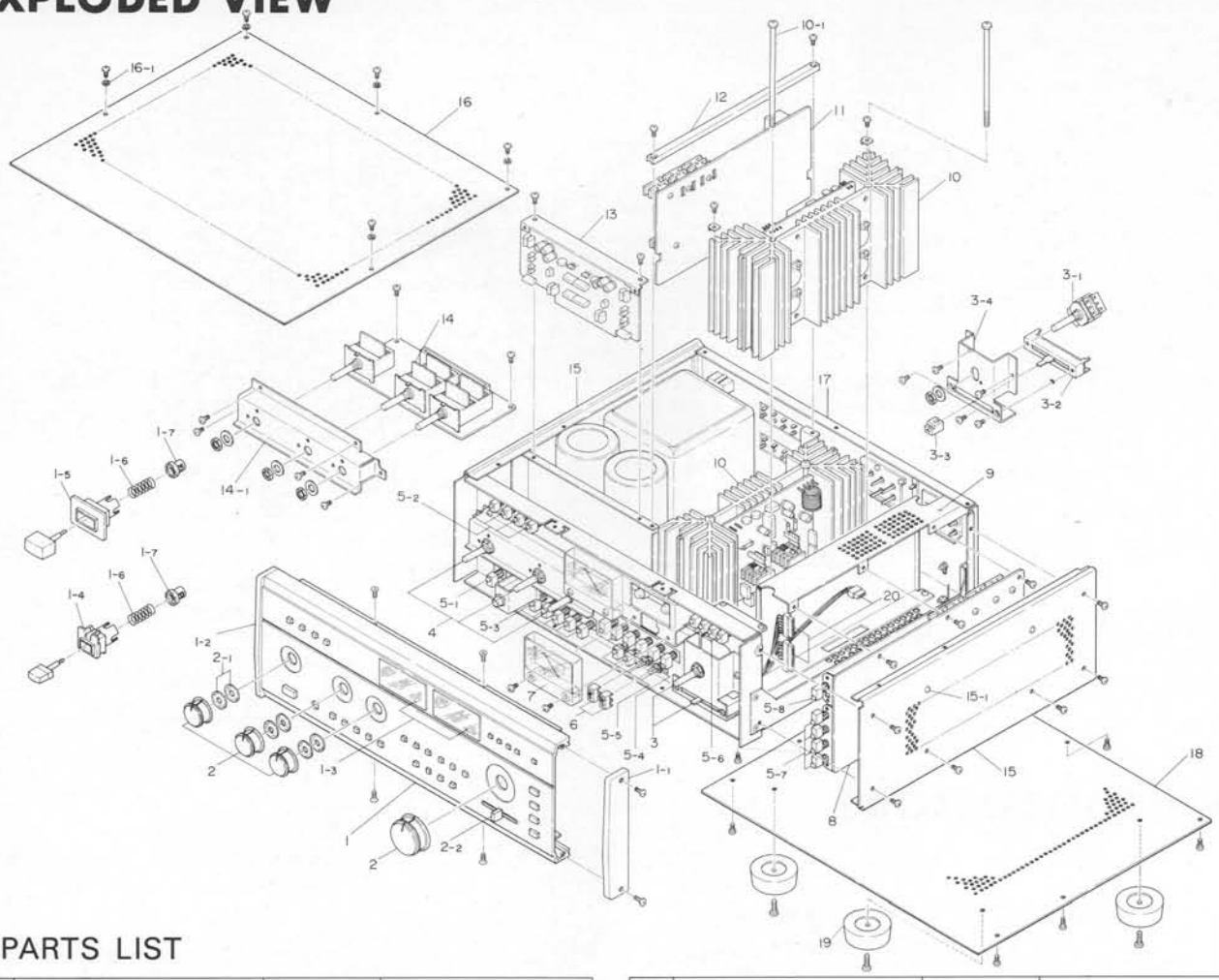


●PARTS LIST

No.	Description	Part No.	Remarks
1	Power Transformer	510−3002−00	
1-1	Name Plate for Transformer	180−3011−04	
2	Electrolytic Capacitor	CE33W1T223S	22,000μF 71V
3	Fuse Holder	306−1502−00	
	Fuse for at 100, 117V	310−9902−00	10A SLO−BLO
	Fuse for at 220, 240V	310−1502−00	5A SLO−BLO
4	Silicon Diode	S15VB20	
5	Power Supply Circuit Assembly	719−0011−00	
6	Relay Circuit Assembly	716−0031−00	
7	Power Amp. Assembly	717−0005−00	
7-1	P-channel MOS FET	2SJ49-C or D	for Q15, Q17
7-2	N-channel MOS FET	2SK134-C or D	for Q14, Q16

No.	Description	Part No.	Remarks
8	Equalizer Amp. Assembly	711−0005−00	
9	Push-button Switch	354−4204−00	Speaker selector
10	Tone Amp. Assembly	712−0005−00	
11	Tone Control Switch Assembly	716−0032−00	
12	Pilot Lamp	176−5401−10	8V/300mA
13	Meter Level Control Assembly	716−0046−00	
14	Tape Monitor Switch Assembly	716−0042−00	Included Attenuator Sw.
15	Disc Impedance Switch Assembly	716−0030−00	
16	Push-button Switch	354−4406−00	for TAPE COPY, SUBSONIC
17	Push-button Switch	354−1006−00	for POWER

EXPLODED VIEW



●PARTS LIST

No.	Description	Part No.	Remarks
1	Front Panel Assembly	130−0016−02	Full Assembled.
	Front Panel	131−0016−02	Front Panel Only.
1-1	Panel End Cap(R)	132−0011−04	
1-2	Panel End Cap(L)	132−0010−04	
1-3	Front Glass	172−0004−04	
	Volume Frame	113−0013−04	
	Push-button Frame(A)	113−0014−04	for Head Amp, Disc Imp, Subsonic, Tape, Tone, etc.
1-4	Push-button Frame(B)	113−0015−04	for Input Selector (Disc 1, 2 etc.)
1-5	Push-button Frame(C)	113−0016−04	for Power Sw.
1-6	Coil Spring	285−1003−04	
1-7	Spring stopper	284−0004−04	
2	Knob for		
	VOLUME	381−4011−04	40mm dia.
	BASS, TREBLE COMPENSATOR	381−3007−04	30mm dia.
2-1	Spacer	250−1011−04	
2-2	BALANCE	389−5007−04	
3	Variable Resistor for		
3-1	VOLUME	573−2002−00	VR1 : 50kΩA×2
3-2	BALANCE	574−2301−00	VR2 : 5kΩB×2
3-3	Link(B)	251−9002−04	
3-4	Fixed Bracket	247−0098−14	
4	Rotary Switch for		
	BASS	336−1505−00	
	TREBLE	336−1504−00	See Tone Control Switch Assembly
	LOUDNESS COMPENSATOR	336−4801−00	
5	Push-button Switch for		See External View No. 3
5-1	POWER	354−1006−00	
5-2	SPEAKERS	354−4204−00	
5-3	TONE CONTROL	354−5401−00	

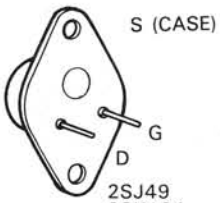
No.	Description	Part No.	Remarks
5-4	TAPE MONITOR, MODE etc.	354−6203−00	See Tape Monitor Switch Assembly
5-5	TAPE COPY, SUBSONIC	354−4406−00	
5-6	DISC IMPEDANCE	354−4209−00	Disc Impedance Switch Assembly
5-7	Input Selector (DISC, TUNER etc.)	354−4605−00	Equalizer Amp. Assembly
5-8	HEAD AMP	354−1403−10	Equalizer Amp. Assembly
6	Link(A) for Push-button(5×5mm)	251−9001−04	
7	METER	178−2006−00	
	Fixing Screw	614−0310−04	3×10mm Binding Self Tapping
8	Equalizer Amp. Assembly	711−0005−00	
9	Shield Cover	231−0021−12	
10	Power Amp. Assembly	717−0005−00	
10-1	Fixing Screw for Heat Sink	631−0004−00	
10-2	Heat Sink Fixed Plate	250−1025−04	
11	Power Supply Circuit Assembly	719−0011−00	
12	PC Board Guard-rail	248−0024−04	
13	Tone Amp. Assembly	712−0005−00	
14	Tone Control Switch Assembly	716−0032−00	
14-1	Fixed Bracket	247−0097−03	
15	Side Plate	151−0005−12	
15-1	Push Rivet	643−0303−50	
16	Top Plate	150−0005−02	
16-1	Locked Washer	639−1031−12	
17	Rear Panel	135−0014−02	
18	Bottom Plate	155−0008−02	
19	Foot	238−0005−04	
20	Connectors		
	Connector Plug 15p	308−1501−00	for Equalizer Amp. Assembly
	Connector Plug 10p	308−1001−00	for Equalizer Amp. Assembly
	Connector Plug 4p	308−0401−00	for Equalizer & Power Amp. Assembly
	Connector Jack	314−3004−00	

●MISCELLANEOUS

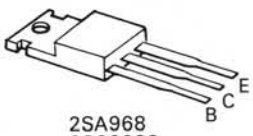
No.	Description	Part No.	Remarks
	Screws for		
	Top Plate	614−0308−02	3×8mm Binding Head B type Self Tapping 5pcs.
	Locked Washer	639−1031−12	5pcs.
	Side Plate	614−0306−02	3×6mm Binding Head B type Self Tapping 12pcs.
	Push Rivet	643−0303−50	4pcs.
	Bottom Plate	614−0306−02	3×6mm Binding Head B type Self Tapping 5pcs.
	Heat Sink	631−0004−00	5×125mm Pan Head ISO Metric 4pcs.
	Front Panel	613−0308−04	3×8mm Flat Head B type Self Tapping 4pcs.
	Panel End Cap	617−0312−04	3×12mm Pan Head B type Self Tapping 4pcs.
	Meter	614−0310−04	3×10mm Binding Head B type Self Tapping 4pcs.
	Foot	600−0414−01	4×14mm Pan Head ISO Metric 4pcs.
	Equalizer Amp. Assembly	614−0306−04	3×6mm Binding Head B type Self Tapping 3pcs.
	Tone Amp. Assembly	614−0306−02	3×6mm Binding Head B type Self Tapping 2pcs.
	Tone Control Switch Assembly	614−0306−04	3×6mm Binding Head B type Self Tapping 6pcs.
	Power Supply Circuit Assembly	613−0308−02	3×8mm Flat Head B type Self Tapping 2pcs.
D001	Silicon Diode	S15VB20	Rectifier
R001, 002	Carbon Film Resistor	RD142HA363J	36kΩ ±5% ½W
R101, 102 103, 104	Carbon Film Resistor	RD142EA472J	4.7kΩ ±5% ¼W

No.	Description	Part No.	Remarks
C001, 002	Electrolytic Capacitor	CE33W1T223S	22,000μF 71WV
C003, 004 005, 006	Ceramic Capacitor	CK45F2H103P	0.01μF +100% −0% 500WV
C007	Mylar Film Capacitor	CQ93M2E103MUL	0.01μF ±20% 250WV
C101, 201 202	Ceramic Capacitor	CK45F1H473Z	0.047μF +80% −20% 50WV
	Pilot Lamp	176−5401−10	8V/300mA
	Fuse for at 100, 117V	310−9902−00	10A SLO−BLO
	for at 220, 240V	310−1502−00	5A SLO−BLO
	Short Plug	301−0001−00	
	Accessories		
	Power Supply Cord	680−1201−00	2−Conductor
	Power Supply Cord for UL, CSA	680−2201−00	2−Conductor
	Power Supply Cord for CEE, VDE etc.	680−3401−00	3−Conductor
	Owner's Manual	820−2017−00	
	Shipping Carton		
	Outer Carton	800−0019−04	
	Inner Carton	801−0019−04	
	Side Protector	803−0032−03	
	Top Pad	803−0033−04	
	Plastic Cover	810−4538−04	

SEMICONDUCTORS

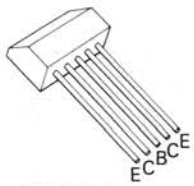


2SJ49
2SK134



2SA968
2SC2238
2SB596
2SD526

2SA798
2SC1583
2SA979
2SC2259



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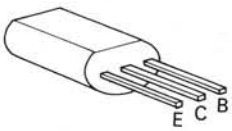
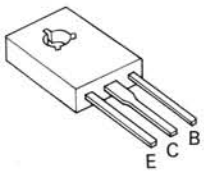
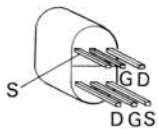


2SC2236
2SA966
2SD756
2SB716
2SA965
2SC2235

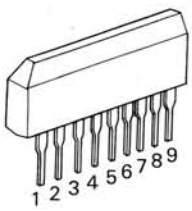


2SB649
2SD669

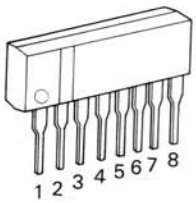


2SK129

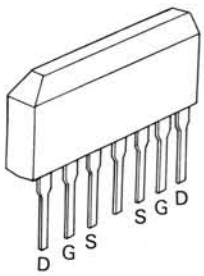
2SC1844
2SA991
2SA970
2SC2240



TA7318P



HA12002

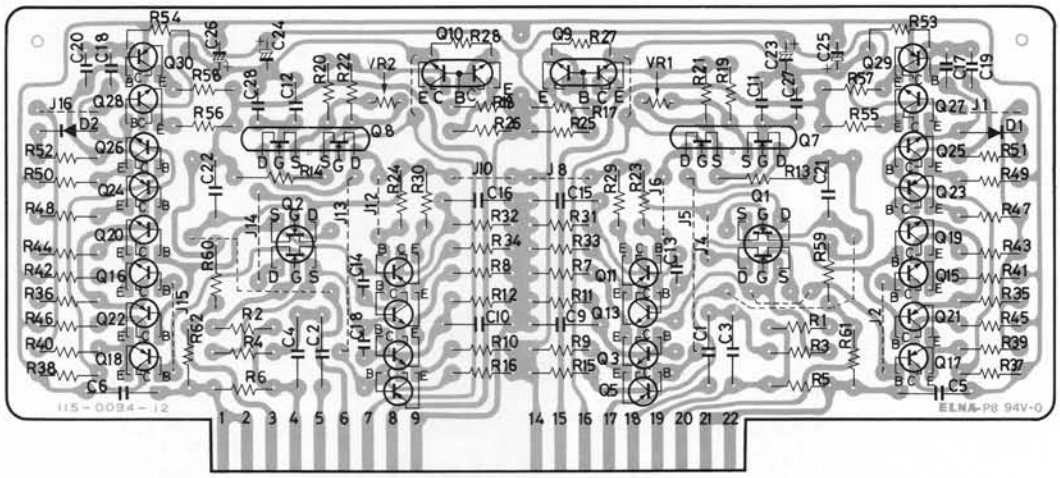


2SK150

TONE AMP. ASSEMBLY (712-0005-00)

●PRINTED CIRCUIT BOARD

＊Printed circuit board as seen from the reverse side.



●PARTS LIST

No.	Description	Part No.	Remarks
Q1, 2	FET	2SK129A−M	
Q3, 4, 13, 14, 15 16, 19, 20, 25, 26	Transistor	2SC1844−E	
Q5, 6, 11, 12, 17 18, 21, 22, 23, 24	Transistor	2SA991−E	
Q7, 8	FET	2SK150−GR	
Q9, 10	Transistor	2SC2291−G	
Q27, 28	Transistor	2SC2236-O or Y	
Q29, 30	Transistor	2SA966-O or Y	
D1, 2	Silicon Varistor	SV−02	
VR1, 2	Potentiometer	583−0121−00	100ΩB for DC Balance Adj.
R1, 2	Carbon Film Resistor	RD142EA100J	10Ω ±5% ¼W
R3, 4	Carbon Film Resistor	RD142EA304J	300kΩ ±5% ¼W
R5, 6	Carbon Film Resistor	RD142EA624J	620kΩ ±5% ¼W
R7, 8, 33, 34	Carbon Film Resistor	RD142EA152J	1.5kΩ ±5% ¼W
R9, 10, 29, 30	Carbon Film Resistor	RD142EA911J	910Ω ±5% ¼W
R11, 12, 17, 18 25, 26, 31, 32	Carbon Film Resistor	RD142EA512J	5.1kΩ ±5% ¼W
R13, 14	Carbon Film Resistor	RD142EA334J	330kΩ ±5% ¼W
R15, 16, 23, 24	Carbon Film Resistor	RD142EA302J	3kΩ ±5% ¼W

No.	Description	Part No.	Remarks
R17, 18	(=R11)		
R19, 20, 21, 22	Carbon Film Resistor	RD142EA101J	100Ω ±5% ¼W
R23, 24, 25, 26	(=R15, R11)		
R27, 28	Carbon Film Resistor	RD142EA822J	8.2kΩ ±5% ¼W
R29~34	(=R9, R11, R7)		
R35, 36, 37, 38, 43, 44, 45, 46	Metal Film Resistor	RN142EA2371F	2.37kΩ ±1% ¼W
R39, 40, 41, 42	Metal Film Resistor	RN142EA1502F	15.0kΩ ±1% ¼W
R47, 48, 49, 50	Carbon Film Resistor	RD142EA151J	150Ω ±5% ¼W
R51, 52	Carbon Film Resistor	RD142EA431J	430Ω ±5% ¼W
R53, 54	Carbon Film Resistor	RD142EA330J	33Ω ±5% ¼W
R55, 56, 57, 58	Carbon Film Resistor	RD142EA300J	30Ω ±5% ¼W
R59, 60	Metal Film Resistor	RN142EA9090F	909Ω ±1% ¼W
R61, 62	Metal Film Resistor	RN142EA1210F	121Ω ±1% ¼W
C1, 2, 3, 4, 5, 6	Metallized Polypropylene Film Capacitor	CQ93PP2A223JM	0.022μF ±5% 100WV
C7, 8, 13, 14, 21, 22	Polystyrene Film Capacitor	CQ08S2B220F	22pF ±1% 125WV
C9, 10, 15, 16	Metallized Polypropylene Fillm Capacitor	CQ93PP2A473JM	0.047μF ±5% 100WV
C11, 12	Bipolar Electrolytic Capacitor	CE04W1A220K(BP)	22μF ±10% 10WV
C17, 18, 19, 20	Mica Capacitor	CM93D2A621J	620pF ±5% 100WV
C23, 24, 25, 26	Electrolytic Capacitor	CE04W1E100	10μF 25WV
C27, 28	Mica Capacitor	CM93D2A471J	470pF ±5% 100WV

TAPE MONITOR SWITCH ASSEMBLY (716-0042-00)

●PARTS LIST

No.	Description	Part No.	Remarks
	Push-button Switch	354−6203−00	
R1, 2	Carbon Film Resistor	RD142EA102J	1kΩ ±5% ¼W
R3, 4	Carbon Film Resistor	RD142EA393J	39kΩ ±5% ¼W

METER LEVEL CONTROL ASSEMBLY (716-0046-00)

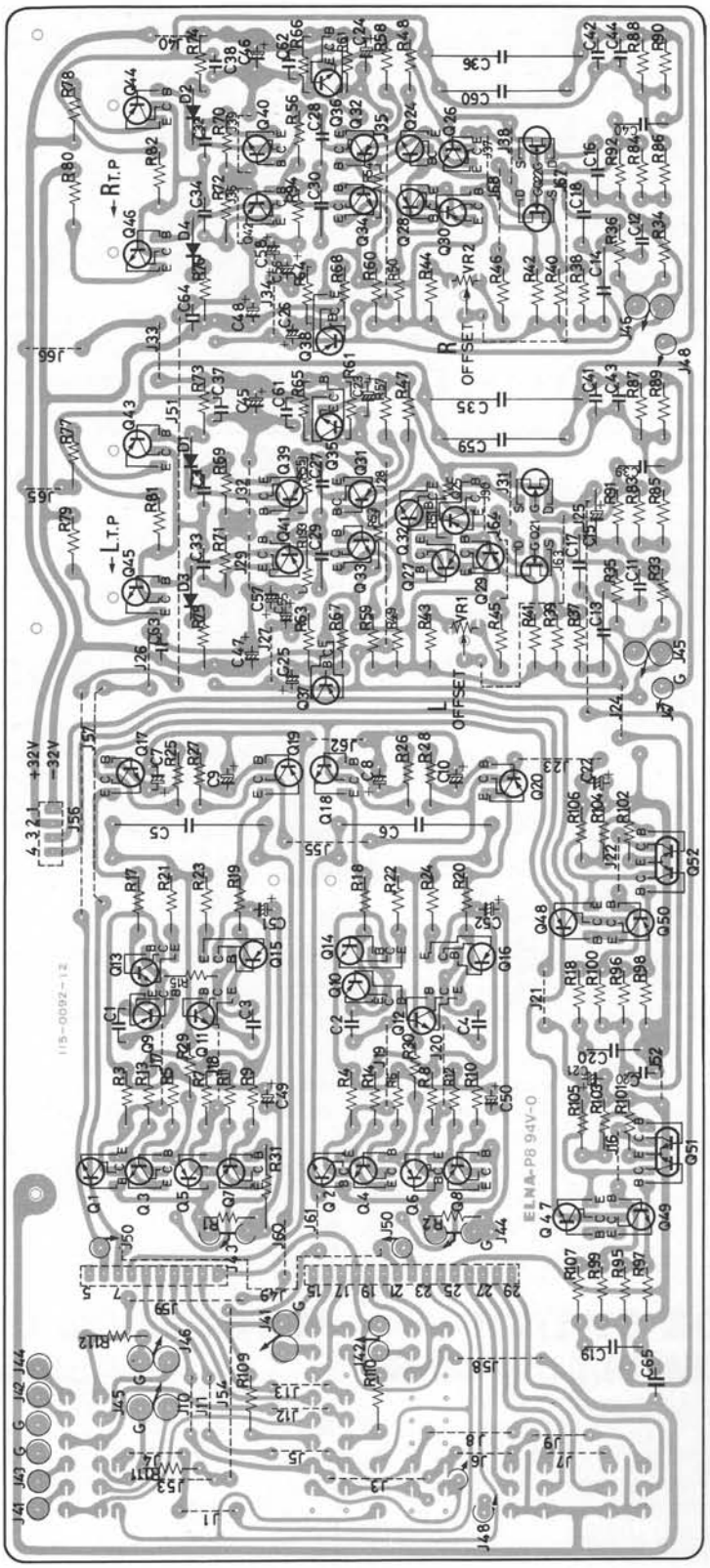
●PARTS LIST

No.	Description	Part No.	Remarks
	Pilot Lamp	176−5401−10	8V/300mA
VR1, 2	Potentiometer	580−0131−00	1kΩB for Meter Level Adj.
R1, 2	Carbon Film Resistor	RD142EA221J	220Ω ±5% ¼W

EQUALIZER AMP. ASSEMBLY (711-0005-00)

●PRINTED CIRCUIT BOARD

* Printed circuit board as seen from the reverse side.



●PARTS LIST

No.	Description	Part No.	Remarks
	Push-button Switch	354−1403−10	for Head AMP.
	Push-button Switch	354−4605−00	for Input Selector
	Connector Plug	308−0401−00	4P
	Connector Plug	308−1001−00	10P
	Connector Plug	308−1501−00	15P
	Heat Sink	240−2003−00	
Q1～4, 11, 12, 23～26, 33, 34, 49	Transistor	2SC1844-E	
Q5, −10, 27～32, 50	Transistor	2SA991-E	
Q13, 14, 17, 18, 47	Transistor	2SC2236-Y	
Q15, 16, 19, 20, 48	Transistor	2SA966-Y	
Q21, 22	FET	2SK129A-M	
Q35, 36, 39, 40	Transistor	2SD756-E	
Q37, 38, 41, 42	Transistor	2SB716-E	
Q43, 44	Transistor	2SA968-O or Y	
Q45, 46	Transistor	2SC2238-O or Y	
Q51	Transistor	2SC1583-G	
Q52	Transistor	2SA798-G	
D1～4	Silicon Diode	1S1555	
VR1, 2	Potentiometer	580−0131−00	1kΩB for DC Balance Adj.
R1, 2	Carbon Film Resistor	RD142EA101J	100Ω ± 5 % ¼W
R3, 4, 5, 6, 7, 8, 9, 10	Carbon Film Resistor	RD142EA271J	270Ω ± 5 % ¼W
R11, 12, 13, 14	Carbon Film Resistor	RD142EA391J	390Ω ± 5 % ¼W
R15, 16, 57, 58 59, 60, 81, 82	Carbon Film Resistor	RD142EA221J	220Ω ± 5 % ¼W
R17, 18, 19, 20	Carbon Film Resistor	RD142EA510J	51Ω ± 5 % ¼W
R21, 22, 23, 24 77, 78, 79, 80	Carbon Film Resistor	RD142EA200J	20Ω ± 5 % ¼W
R25, 26, 27, 28	Carbon Film Resistor	RD142EA471J	470Ω ± 5 % ¼W
R29, 30	Metal Film Resistor	RN142EA20R0F	20.0Ω ± 1 % ¼W
R31, 32	Metal Film Resistor	RN143AA1R0G	1.0Ω ± 2 % 1 W
R33, 34	Carbon Film Resistor	RD142EA154J	150kΩ ± 5 % ¼W
R35, 36	Carbon Film Resistor	RD142EA100J	10Ω ± 5 % ¼W
R37, 38	Carbon Film Resistor	RD142EA472J	4.7kΩ ± 5 % ¼W
R39, 40, 41, 42	Carbon Film Resistor	RD142EA512J	5.1kΩ ± 5 % ¼W
R43, 44, 45, 46 95, 96	Carbon Film Resistor	RD142EA622J	6.2kΩ ± 5 % ¼W
R47, 48, 49, 50	Metal Film Resistor	RN142EA2001F	2.0kΩ ± 1 % ¼W
R51, 52, 53, 54	Metal Film Resistor	RN142EA1002F	10.0kΩ ± 1 % ¼W
R55, 56	Carbon Film Resistor	RD142EA302J	3kΩ ± 5 % ¼W
R57～60	(=R15)		

No.	Description	Part No.	Remarks
R61, 62, 63, 64 65, 66, 67, 68	Carbon Film Resistor	RD142EA163J	16kΩ ± 5 % ¼W
R69, 70, 71, 72 105, 106	Carbon Film Resistor	RD142EA122J	1.2kΩ ± 5 % ¼W
R73, 74, 75, 76	Carbon Film Resistor	RD142EA121J	120Ω ± 5 % ¼W
R77～80, 81 82	(=R21, R15)		
R83, 84	Metal Film Resistor	RN142EA2740F	274Ω ± 1 % ¼W
R85, 86	Metal Film Resistor	RN142EA5232F	52.3kΩ ± 1 % ¼W
R87, 88	Metal Film Resistor	RN142EA1402F	14.0kΩ ± 1 % ¼W
R89, 90	Metal Film Resistor	RN142EA5901F	5.90kΩ ± 1 % ¼W
R91, 92	Metal Film Resistor	RN142EA82R5F	82.5Ω ± 1 % ¼W
R93, 94	Carbon Film Resistor	RD142EA301J	300Ω ± 5 % ¼W
R95, 96	(=R43)		
R97, 98 103, 104	Carbon Film Resistor	RD142EA102J	1kΩ ± 5 % ¼W
R99, 100	Carbon Film Resistor	RD142EA133J	13kΩ ± 5 % ¼W
R101, 102	Carbon Film Resistor	RD142EA681J	680Ω ± 5 % ¼W
R103～106	(=R97, R69)		
R107, 108	Carbon Film Resistor	RD142EA270J	27Ω ± 5 % ¼W
R109, 110	Carbon Film Resistor	RD142EA683J	68kΩ ± 5 % ¼W
R111, 112	Carbon Film Resistor	RD142EA104J	100kΩ ± 5 % ¼W
C1, 2, 3, 4	Mica Capacitor	CM93D2A471J	470pF ± 5 % 100WV
C5, 6, 35, 36	Metallized Film Capacitor	CQ91M2A225K	2.2μF ±10% 100WV
C7, 8, 9, 10	Electrolytic Capacitor	CE04W1A101	100μF 10WV
C11, 12	Mica Capacitor	CM93D2A220J	22pF ± 5 % 100WV
C13, 14	Polystyrene Film Capacitor	CQ08S2B241J	240pF ± 5 % 125WV
C15, 16, 17, 18 19, 20	Metallized Polypropylene Film Capacitor	CQ93PP2A103JM	0.01μF ± 5 % 100WV
C21, 22, 23, 24 25, 26	Electrolytic Capacitor	CE04W1E100	10μF 25WV
C27, 28, 29, 30	Polystyrene Film Capacitor	CQ08S2B391J	390pF ± 5 % 125WV
C31, 32, 33, 34	Mica Capacitor	CM93D2A151J	150pF ± 5 % 100WV
C35, 36	(=C5)		
C37, 38	High Precision Film Capacitor	HPF1H562G	5600pF ± 2 % 50WV
C39, 40	High Precision Film Capacitor	HPF1H563F	0.056μF ± 1 % 50WV
C41, 42	High Precision Film Capacitor	HPF1H183F	0.018μF ± 1 % 50WV
C43, 44	High Precision Film Capacitor	HPF1H152F	1500pF ± 1 % 50WV
C45, 46, 46, 48	Electrolytic Capacitor	CE04W1J101	100μF 63WV
C49, 50, 51, 52	Tantalum Solid Capacitor	CS15E1V0R1M	0.1μF ±20% 35WV
C55, 56, 57, 58	Tantalum Solid Capacitor	CS15E1V010M	1μF ±20% 35WV
C59, 60	Polystyrene Film Capacitor	CQ08S2X682JS	6800pF ± 5 % 150WV
C61, 62, 63, 64	Ceramic Capacitor	CK45F1H223Z	0.022μF +80% −20% 50WV
C65, 66, 67	Ceramic Capacitor	CK45F1H473Z	0.047μF +80% −20% 50WV
	Pan Head ISO Metric Screw	600−0308−01	3×8mm
	Binding Head B type Self Tapping Screw	614−0308−02	3×8mm

DISC IMPEDANCE SWITCH ASSEMBLY (716-0030-00)

●PARTS LIST

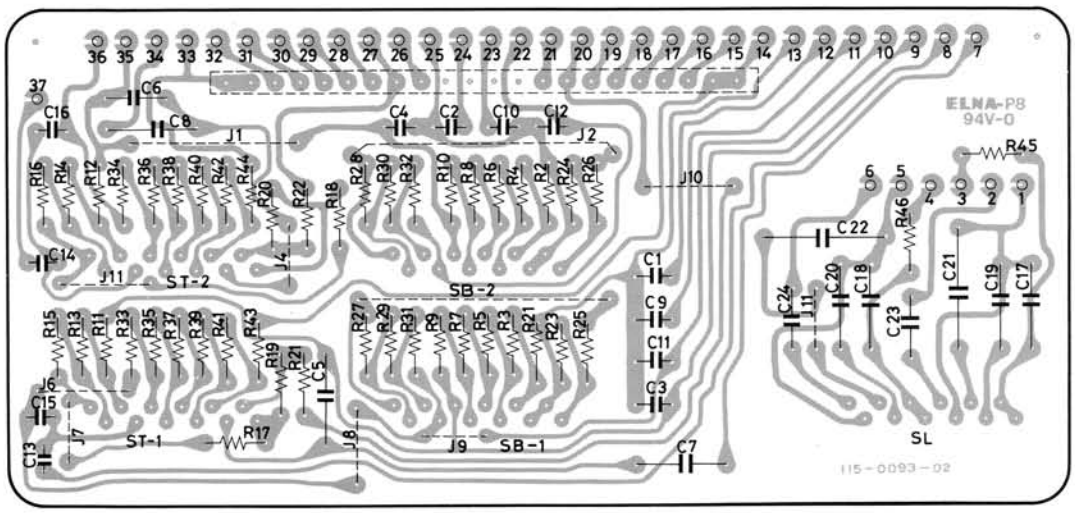
No.	Description	Part No.	Remarks
	Push-button Switch	354−4209−00	
R1, 2	Carbon Film Resistor	RD142EA101J	100Ω ± 5 % ¼W
R3, 4	Carbon Film Resistor	RD142EA683J	68kΩ ± 5 % ¼W

No.	Description	Part No.	Remarks
R5, 6	Carbon Film Resistor	RD142EA184J	180kΩ ± 5 % ¼W
	Pan Head ISO Metric Screw	600−0308−01	3×8mm

TONE CONTROL SWITCH ASSEMBLY (716-0032-00)

●PRINTED CIRCUIT BOARD

＊Printed circuit board as seen from the reverse side.



●PARTS LIST

No.	Description	Part No.	Remarks
	Fixed Bracket	247−0097−03	
	PC Board Connector	303−2204−00	22P
	Rotary Switch		
	BASS	336−1505−00	
	TREBLE	336−1504−00	
	LOUDNESS COMPENSATOR	336−4801−00	
R1, 2	Carbon Film Resistor	RD142EA152J	1.5kΩ ± 5 % ¼W
R3, 4	Carbon Film Resistor	RD142EA751J	750Ω ± 5 % ¼W
R5, 6	Carbon Film Resistor	RD142EA471J	470Ω ± 5 % ¼W
R7, 8, 11, 12	Carbon Film Resistor	RD142EA331J	330Ω ± 5 % ¼W
R9, 10	Carbon Film Resistor	RD142EA271J	270Ω ± 5 % ¼W
R13, 14, 25 26	Carbon Film Resistor	RD142EA151J	150Ω ± 5 % ¼W
R15, 16	Carbon Film Resistor	RD142EA131J	130Ω ± 5 % ¼W
R17, 18	Carbon Film Resistor	RD142EA111J	110Ω ± 5 % ¼W
R19, 20	Carbon Film Resistor	RD142EA101J	100Ω ± 5 % ¼W
R21, 22, 27 28	Carbon Film Resistor	RD142EA820J	82Ω ± 5 % ¼W
R23, 24	Carbon Film Resistor	RD142EA431J	430Ω ± 5 % ¼W
R25, 26, 27 28	(=R13, R21)		

No.	Description	Part No.	Remarks
R29, 30	Carbon Film Resistor	RD142EA510J	51Ω ± 5 % ¼W
R31, 32	Carbon Film Resistor	RD142EA360J	36Ω ± 5 % ¼W
R33, 34	Carbon Film Resistor	RD142EA390J	39Ω ± 5 % ¼W
R35, 36	Carbon Film Resistor	RD142EA200J	20Ω ± 5 % ¼W
R37, 38	Carbon Film Resistor	RD142EA160J	16Ω ± 5 % ¼W
R39, 40	Carbon Film Resistor	RD142EA130J	13Ω ± 5 % ¼W
R41, 42	Carbon Film Resistor	RD142EA110J	11Ω ± 5 % ¼W
R43, 44	Carbon Film Resistor	RD142EA220J	22Ω ± 5 % ¼W
R45, 46	Metal Film Resistor	RN142EA3321F	3.32kΩ ± 1 % ¼W
C1, 2, 3, 4	Bipolar Electrolytic Capacitor	CE04W1AR47K(B.P.)	0.47μF ±10% 10WV
C5, 6	Metallized Polypropylene Film Capacitor	CQ93PP2A183JM	0.018μF ± 5 % 100WV
C7, 8, 17, 18	Metallized Polypropylene Film Capacitor	CQ93PP2A563JM	0.056μF ± 5 % 100WV
C9, 10, 11, 12	Bipolar Electrolytic Capacitor	CE04W1A3R3K(B.P.)	3.3μF ±10% 10WV
C13, 14	Bipolar Electrolytic Capacitor	CE04W1AR68K(B.P.)	0.68μF ±10% 10WV
C15, 16	Bipolar Electrolytic Capacitor	CE04W1AR22K(B.P.)	0.22μF ±10% 10WV
C19, 20	Metallized Polypropylene Film Capacitor	CQ93PP2A124JM	0.12μF ± 5 % 100WV
C21, 22	Metallized Polypropylene Film Capacitor	CQ93PP2A274JM	0.27μF ± 5 % 100WV
C23, 24	Polystyrene Film Capacitor	CQ08S2B331J	330pF ± 5 % 125WV

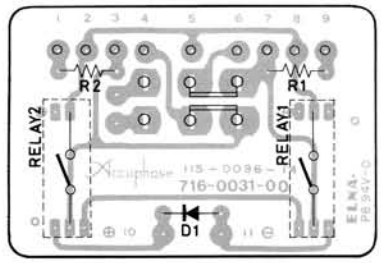
RELAY CIRCUIT ASSEMBLY (716-0031-00)

●PARTS LIST

No.	Description	Part No.	Remarks
	Slide Switch	350−1201−00	
RELAY1, 2	Reedrelay	363−2101−00	
D1	Silicon Diode	1S1555	
R1, 2	Carbon Film Resistor	RD142EA201J	200Ω ± 5 % ¼W

●PRINTED CIRCUIT BOARD

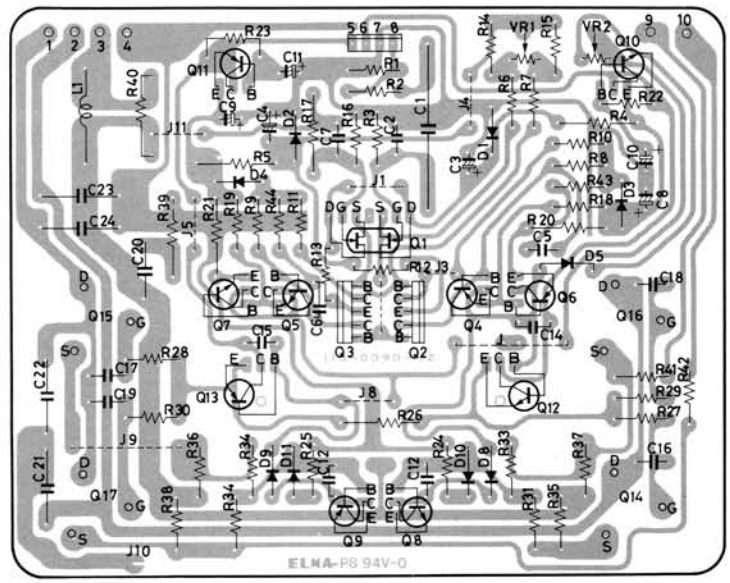
＊Printed circuit board as seen from the reverse side.



POWER AMP. ASSEMBLY (717-0005-00)

●PRINTED CIRCUIT BOARD

＊Printed circuit board as seen from the reverse side.



●PARTS LIST

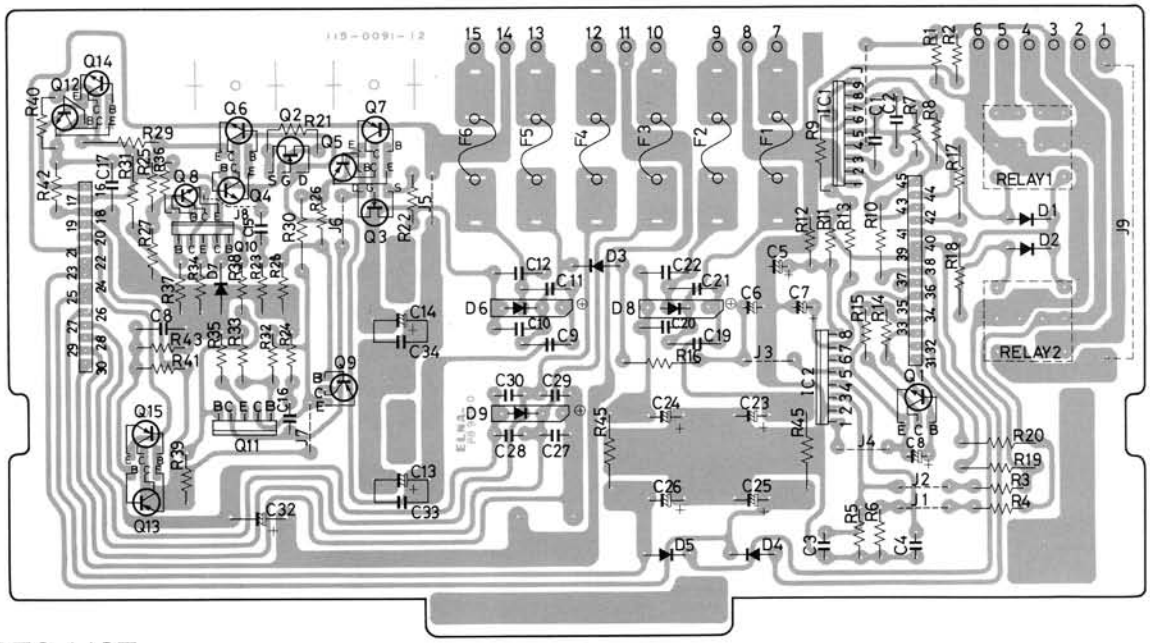
No.	Description	Part No.	Remarks
	Heat Sink	240−0006−02	for Q14~17
	Heat Sink	240−2003−00	for Q12, 13
	Heat Sink	240−2006−00	for Q6, 7
	Transistor Socket	300−0002−00	for Q14~17
	Transistor Insulator	318−0001−00	for Q14~17
	Connector Plug	308−0401−00	4P
D1, 2	Zener Diode	RD24EB4	
D3, 4, 6~9	Silicon Diode	1S1555	
D5	Varistor	STV−3H−O	
D10, 11	Silicon Diode	1S1553	
Q1	FET	2SK150-Y or GR	
Q2	Transistor	2SC2259-F	
Q3	Transistor	2SA979-F	
Q4, 6	Transistor	2SB716A-D	
Q5, 7	Transistor	2SD756A-D	
Q8	Transistor	2SC2240-GR or BL	
Q9	Transistor	2SA970-GR or BL	
Q10	Transistor	2SC2235-O or Y	
Q11	Transistor	2SA965-O or Y	
Q12	Transistor	2SD669A-C	
Q13	Transistor	2SB649A-C	
Q14, 16	N-channel MOS FET	2SK134-C or D	
Q15, 17	P-channel MOS FET	2SJ49-C or D	
L1	Choke Coil	506−0001−00	2μH
VR1	Potentiometer	581−0531−00	4.7kΩB for Center Voltage Adj.
VR2	Potentiometer	581−0521−00	470ΩB for Bias Current Adj.
R1	Carbon Film Resistor	RD142EA105J	1MΩ ±5% ¼W
R2, 8, 9, 10, 11	Carbon Film Resistor	RD142EA152J	1.5kΩ ±5% ¼W
R3	Carbon Film Resistor	RD142EA513J	51kΩ ±5% ¼W
R4, 5	Oxide Metal Film Resistor	RS143AA272J	2.7kΩ ±5% 1W

No.	Description	Part No.	Remarks
R6, 7	Metal Film Resistor	RN142EA1182F	11.8kΩ ±1% ¼W
R8~11	(=R2)		
R12, 13	Carbon Film Resistor	RD142EA163J	16kΩ ±5% ¼W
R14, 15	Carbon Film Resistor	RD142EA242J	2.4kΩ ±5% ¼W
R16	Metal Film Resistor	RN142EA1500F	150Ω ±1% ¼W
R17	Metal Film Resistor	RN142EA3571F	3.57kΩ ±1% ¼W
R18, 19	Carbon Film Resistor	RD142EA102J	1kΩ ±5% ¼W
R20, 21	Oxide Metal Film Resistor	RS143AA101J	100Ω ±5% 1W
R22, 23	Carbon Film Resistor	RD142EA562J	5.6kΩ ±5% ¼W
R24, 25	Carbon Film Resistor	RD142EA823J	82kΩ ±5% ¼W
R26	Oxide Metal Film Resistor	RS143AA131J	130Ω ±5% 1W
R27, 28, 29 30, 43, 44	Carbon Film Resistor	RD142EA101J	100Ω ±5% ¼W
R31, 32, 33, 34	Carbon Film Resistor	RD142EA332J	3.3kΩ ±5% ¼W
R35, 36, 37, 38	Metal Plate Resistor	RW993DJR22K	0.22Ω ±10% 2W
R39	Metal Film Resistor	RN143AA4R7J	4.7Ω ±5% 1W
R40	Metal Film Resistor	RN143AA100J	10Ω ±5% 1W
R41, 42	Carbon Film Resistor	RD142EA331J	330Ω ±5% ¼W
R43, 44	(=R27)		
C1	Metallized Film Capacitor	CQ91M2A225K	2.2μF ±10% 100WV
C2, 14, 15	Mica Capacitor	CM93D2A101J	100pF ±5% 100WV
C3, 4	Electrolytic Capacitor	CE04W1H4R7SM	4.7μF 50WV
C5, 6	Mica Capacitor	CM93D2A122J	1200pF ±5% 100WV
C7	Mica Capacitor	CM93D2A680J	68pF ±5% 100WV
C8, 9	Electrolytic Capacitor	CE04W2A4R7SM	4.7μF 100WV
C10, 11	Electrolytic Capacitor	CE04W2A100	10μF 100WV
C12, 13 C14, 15	Metallized Polypropylene Film Capacitor (=C2)	CQ93PP2A223JM	0.022μF ±5% 100WV
C16, 17, 18, 19	Mica Capacitor	CM93D2A470J	47pF ±5% 100WV
C20	Metallized Film Capacitor	CQ93M2G223M	0.022μF ±20% 400WV
C21, 22	Metallized Film Capacitor	CQ93M2E224K	0.22μF ±10% 250WV
C23, 24	Electrolytic Capacitor	CE04W2A100SM	10μF 100WV
	Pan Head ISO Metric Screw	600−0316−01	3×16mm
	Binding Head B type Self Tapping Screw	614−0308−02	3×8mm (Black)
	Binding Head B type Self Tapping Screw	614−0308−04	3×8mm
	Nut	633−2021−01	2mm dia.

POWER SUPPLY CIRCUIT ASSEMBLY (719-0011-00)

●PRINTED CIRCUIT BOARD

＊Printed circuit board as seen from the reverse side.



●PARTS LIST

No.	Description	Part No.	Remarks
	Heat Sink	240−2003−00	for Q14, 15
	Heat Sink	240−2004−00	for Q6, 7
F1, 2	Fuse	310−0101−00	1A/250V
F3, 4, 5, 6	Fuse	310−0201−00	2A/250V
	Fuse Holder	306−1102−00	
	Connector Plug	308−1501−00	15P
	Connector Terminal	314−3003−00	1P
RELAY1, 2	Relay	362−3401−00	
D1, 2	Silicon Diode	1S1555	
D3	Silicon Diode	S5277G	
D4, 5	Silicon Diode	S5277B	
D6, 8	Silicon Diode	1G4B41	
D7	Zener Diode	RD6.2EB2	
D9	Silicon Diode	1B4B41	
IC1	IC	TA7318P	
IC2	IC	HA12002	
Q1	Transistor	2SC2240-BL	
Q2, 3	FET	2SK30A-GR	
Q4, 8, 12	Transistor	2SC2240-GR or BL	
Q5, 9, 13	Transistor	2SA970-GR or BL	
Q6	Transistor	2SD526-O or Y	
Q7	Transistor	2SB596-O or Y	
Q10	Transistor	2SC1583-G	
Q11	Transistor	2SA798-G	
Q14	Transistor	2SC2238-O or Y	
Q15	Transistor	2SA968-O or Y	
R1, 2	Carbon Film Resistor	RD142EA104J	100kΩ ±5% ¼W
R3, 4, 5, 6	Carbon Film Resistor	RD142EA563J	56kΩ ±5% ¼W
R7, 8	Carbon Film Resistor	RD142EA103J	10kΩ ±5% ¼W

No.	Description	Part No.	Remarks
R9, 10	Oxide Metal Film Resistor	RS143AA472J	4.7kΩ ±5% 1W
R11	Carbon Film Resistor	RD142EA154J	150kΩ ±5% ¼W
R12	Carbon Film Resistor	RD142EA183J	18kΩ ±5% ¼W
R13	Oxide Metal Film Resistor	RS143AA302J	3kΩ ±5% 1W
R14	Carbon Film Resistor	RD142EA564J	560kΩ ±5% ¼W
R15	Carbon Film Resistor	RD142EA471J	470Ω ±5% ¼W
R16	Carbon Film Resistor	RD142HA472J	4.7kΩ ±5% ½W
R17, 18	Carbon Film Resistor	RD142HA391J	390Ω ±5% ½W
R19, 20	Oxide Metal Film Resistor	RS143AA821J	820Ω ±5% 1W
R21, 22	Carbon Film Resistor	RD142EA201J	200Ω ±5% ¼W
R23, 24	Carbon Film Resistor	RD142EA101J	100Ω ±5% ¼W
R25, 26	Carbon Film Resistor	RD142EA621J	620Ω ±5% ¼W
R27, 28	Carbon Film Resistor	RD142EA333J	33kΩ ±5% ¼W
R29, 30	Carbon Film Resistor	RD142HA3R3J	3.3Ω ±5% ½W
R31	Carbon Film Resistor	RD142HA242J	2.4kΩ ±5% ½W
R32, 36, 39	Metal Film Resistor	RN142EA2612F	26.1kΩ ±1% ¼W
R33	Metal Film Resistor	RN142EA6191F	6.19kΩ ±1% ¼W
R34, 35	Carbon Film Resistor	RD142EA132J	1.3kΩ ±5% ¼W
R37	Carbon Film Resistor	RD142EA622J	6.2kΩ ±5% ¼W
R38	Metal Film Resistor	RN142EA3922F	39.2kΩ ±1% ¼W
R40, 41	Metal Film Resistor	RN142EA1582F	15.8kΩ ±1% ¼W
R42, 43	Metal Film Resistor	RN142EA1652F	16.5kΩ ±1% ¼W
R44, 45	Oxide Metal Film Resistor	RS143AA560J	56Ω ±5% 1W
C1, 2	Metallized Polypropylene Film Capacitor	CQ93PP2A223JM	0.022μF ±5% 100WV
C3, 4	Bipolar Electrolytic Capacitor	CE04D0J101 (B.P.)	100μF 6.3WV
C5, 8	Electrolytic Capacitor	CE04W1A221SM	220μF 10WV
C6, 7	Electrolytic Capacitor	CE04W1E100SM	10μF 25WV
C9, 10, 11, 12 17, 18, 19～22	Ceramic Capacitor	CK45F2H103P	0.01μF +100% −0% 500WV
C13, 14	Electrolytic Capacitor	CE04W1H222SL	2200μF 50WV
C15, 16, 27, 28 29, 30	Ceramic Capacitor	CK45F1H103Z	0.01μF +80% −20% 50WV
C17～22	(=C9)		
C23, 24, 25, 26	Electrolytic Capacitor	CE04W2A221SM	220μF 100WV
C27～30	(=C15)		
C31, 32	Electrolytic Capacitor	CE04W1C332SW	3300μF 16WV
C33, 34	Metallized Film Capacitor	CQ91M2J103M	0.01μF ±20% 630WV

CIRCUIT DESCRIPTION

The circuitry of this unit can be separated into blocks as follows according to their respective functions.

*Signal amplifying circuits
  Head Amp. } both on Equalizer Amp. Assembly
  Equalizer Amp. } (711-0005-00)
  Tone Amp. Assembly (712-0005-00)
  Power Amp. Assembly (717-0005-00)
*Power Supply Circuits and Subcircuits
  Voltage Regulated Power Supply Circuit } Power Supply
  Protection Circuit } Circuit Assembly
  Peak Meter Driving Circuit } (719-0011-00)

The basic signal amplifying circuit (plus-minus dual power supply, pure complementary connection, push-pull operation in every stage) has been further developed to include directly coupled inputs and DC amplifier operation.
A DC balance adjustment circuit has been added for this reason. It requires fine adjustments as shown in separate chart, if and when the printed circuit board or transistors are replaced.

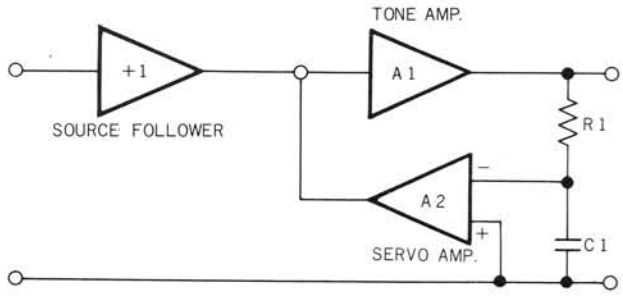
1. HEAD AMP
EQUALIZER AMP

The Head Amplifier which is located ahead of the Equalizer Amplifier has a flat characteristic with a 26dB gain.
Since thermal coupling is necessary in the first differential amplifier stages of both the Head and Equalizer amplifiers, it is necessary to see that close coupling is made when transistors are replaced.

2. TONE AMP

A DC Servo Amp system is employed in the Tone Amp circuit network so that this unit can operate as a pure DC amplifier with the tone control circuit ON. This permits the tone control circuit impedance to be lowered to where maximum amplifier performance and improved S/N ratio, as well as prevention of sound quality deterioration are achieved.

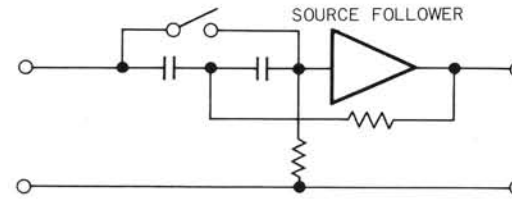
OPERATION OF THE SERVO AMP SYSTEM



Only the DC fluctuation portion of the Tone Amp "A1" output is used to drive the Servo Amp "A2", which functions as an inverting amplifier and produces at its output a signal opposite to that at the input. By feedbacking this inverted signal output of "A2" and returning it to the input of "A1", the Servo Amp scheme effectively maintains at "0" DC potential the output of "A1".
The Servo Amp system consists of the dual FET (Q7:2SK150-GR) which has a constant current source (Q9:2SC2291-G) and the inverting circuitry (Q5, Q11: 2SA991-E).
Briefly the circuit operates as follows. If the "A1" output happens to drift in the negative direction, the drain potential of Q7 (left half) goes up, and that of the right half goes down. This causes the base bias of Q5 to go up in positive direction, and decreases its current flow. It also causes the base bias of Q3 to go up, but here it increases its current flow.
The above actions further cause the source potential at the input side of Q1 to decrease, while the same principle causes the potential of the feedback side source potential to go up. As a result the base bias of Q15 and Q17 turns negative, and that of Q19 and Q21 swings positive and causes the "A1" output to return to "0" potential.
Tone Amp adjustments are made within the Servo Amp circuit as shown in the separate chart, but very fine adjustments must be repeated several times before finalizing them because the charge voltages of C11 and C12 are likely to cause overshooting of the electrostatic potential.
In case abnormal DC drift of the tone amplifier is encountered and "0" potential adjustments become difficult to make, the trouble area must first be most likely between the servo amp section or signal path section. Shorting C11 or C12 will cut off the Servo Amp and help in locating the trouble.

The low frequency response characteristics are determined by the gain of A2 and the time constant parameter of R1 (R12: 330 k ohms) and C1 (C11: 22μF). The range extends to the very low frequencies as the −3dB point is at 0.2−0.5Hz.

SUBSONIC FILTER



The subsonic filter makes use of the Tone Amp input's source follower, and comprises an active filter with a 17Hz, 12dB/Oct characteristic.

3. POWER AMPLIFIER

Power MOS-FETs are used in the final stage to improve high frequency characteristics. They possess the following advantages.
1) High frequency characteristics are superior because there is no carrier storage and gm is constant up to the vicinity of 1 MHz.
2) A wider area of stable operation is possible with MOS FETs. They are also less susceptible to breakdowns because current concentration is unlikely as their V_{GS}-I_D characteristics against temperature changes are negative.
3) Very small power is required to drive MOS FETs since they are voltage controlled devices that have a high input impedance. This permits a more stable operation of the driver stage, and employment of ideal Class-A amplifier driver circuits.

Good layout design and wiring arrangement are necessary to preserve the superior high frequency characteristics of MOS FETs, and obtain maximum performance capability. To ensure this, the heat sink was incorporated into the power amplifier assembly for uniform temperature distribution.
Furthermore, a one-chip dual-FET is employed as a source follower type, input buffer in the first stage. This has restricted drift to almost the very limit of circuit possibility. Also high S/N ratio and low distortion is achieved by reducing the drain voltage of this FET.
This unit uses a current limiter protection circuit. In case of abnormal loads, it limits current flow within the area of stable operation (ASO), but will cut off AC power instantly in case of a shorted output circuit, which, otherwise, will damage the power MOS FETs. The cause for any short circuits must be removed before using the amplifier.
If power MOS FETs are damaged due to power amplifier trouble, all the FETs in that channel must be replaced. In such a case, the rank of FETs should be selected according to P-channel and N-channel types.

4. POWER SUPPLY CIRCUITS AND SUBCIRCUITS

* Voltage Regulated Power Supply consists of the following five circuits

for Equalizer amp	±32V
for Tone Amp	±15V
for Power Amp	±16V and ±66V
for Head Amp	± 8V

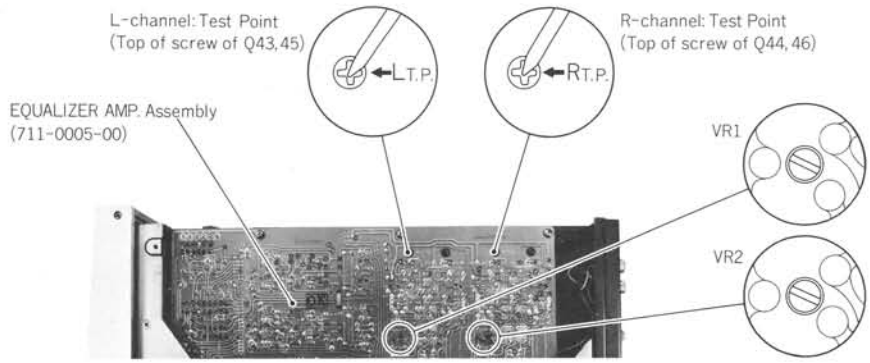
  Ripple Filter circuits and Voltage Dropping circuits are both provided in all three Head Amplifier, Equalizer Amplifier and Power Amplifier circuits. Also the ±66V, ±32V and ±8V power supplies are fused, so check fuses first in case of no voltage.
  The fuses are as follows.
    F1, F2 : ±66V
    F3, F4 : ±8V
    F5, F6 : ±32V
* The protection circuit utilizes IC1 to control by relay action both the delay time (after AC switching) and DC detection circuit action (Very low frequency-DC) respectively for Left and Right channels.
* IC2 is used to deflect the Peak Meter indicator for both Left and Right channels. In case of defective meter action, check the voltage of IC2.

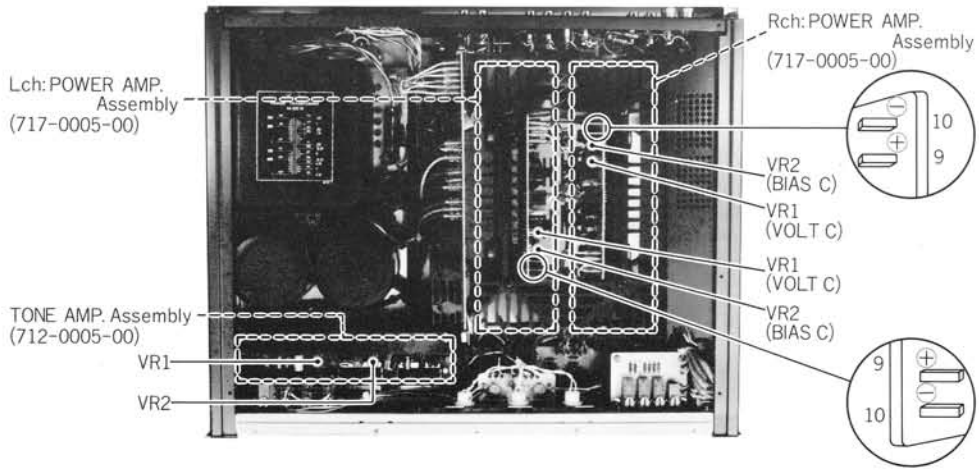
CIRCUIT ADJUSTMENT

Note 1. Each adjustment should be made on the condition with "no input" and "no load". (Disconnect input cable and speaker cable.)
Note 2. Internal input resistance of volt-ohm meter should be higher than 10k ohms.

STEP	ADJUST ITEM	PROCEDURE		ADJUST	REMARKS	REF
		TEST EQ'PT	CONNECTING POINT			
EQUALIZER AMP. ASSEMBLY (711-0005-00)						
1	DC Balance of "L" Equalizer Amp.	V.O. Meter Set range to less than DC 0.3V	Top of screw ($L_{T.P.}$/$R_{T.P.}$) shown on Fig. 1 and chassis	VR1	Adjust for "O" reading of V.O. Meter	Fig. 1
2	DC Balance of "R" Equalizer Amp.			VR2		
TONE AMP. ASSEMBLY (712-0005-00)						
1	DC Balance of "L" Tone Amp.	V.O. Meter Set range to less than DC 0.3V	PRE OUT "L" on rear panel	VR1	Slide-Switch on rear panel set at "SEPARATE" Adjust for "O" reading of V.O. Meter.	Fig. 2
2	DC Balance of "R" Tone Amp.		PRE OUT "R" on rear panel	VR2		
POWER AMP. ASSEMBLY (717-0005-00)						
1	Bias Current of "L" Main Drive	V.O. Meter Set range to less than DC 0.3V	⊕ terminal to Pin 9, and ⊖ terminal to Pin 10	VR2 (BIAS C)	Adjust for "+30mV" reading of V.O. Meter	Fig. 2
2	Bias Current of "R" Main Drive					
3	Center Voltage of "L" Main Drive		⊕ and ⊖ terminal of Speaker Terminal "A" or "B"	VR1 (VOLT C)	Speaker Switch set at "A" or "B" Adjust for "O" reading of V.O. Meter	
4	Center Voltage of "R" Main Drive					

Note 3. Above adjustments should be made in case of the PC Board or Transistors being changed.





SPECIFICATIONS

PERFORMANCE GUARANTY:
All Accuphase product specifications are guaranteed as stated.

POWER OUTPUT: both channels driven from 20Hz to 20,000Hz with no more than 0.02% total harmonic distortion:
180 watts per channel, min. RMS, at 4 ohms
130 watts per channel, min. RMS, at 8 ohms
65 watts per channel, min. RMS, at 16 ohms

TOTAL HARMONIC DISTORTION: from 20Hz to 20,000Hz at any power output from 1/4 watt to rated power:
0.08% max., at 4 ohms
0.08% max., at 8 ohms
0.08% max., at 16 ohms

INTERMODULATION DISTORTION: will not exceed 0.02% at rated power output for any combination of frequencies between 20Hz and 20,000Hz at 8 ohms

FREQUENCY RESPONSE:
Main Amp Input: 20Hz to 20,000Hz; +0, –0.2dB at rated power output
4Hz to 150,000Hz; +0, –3.0dB at 1 watt power output
High-Level Input: 20Hz to 20,000Hz; +0, –0.2dB at rated power output
Low-Level Input: 20Hz to 20,000Hz; +0.2, –0.2dB at rated power output

DAMPING FACTOR: 80, 8 ohms load at 40Hz

INPUT SENSITIVITY AND IMPEDANCE:
DISC 1 (HEAD AMP switch set to OFF); 2.5mV
Selector for 100-ohm, 47k-ohm, 82k-ohm, 150k-ohm
DISC 1 (HEAD AMP switch set to ON); 0.125mV, 100-ohm
DISC 2 (HEAD AMP switch set to OFF); 2.5mV, 47k-ohm
DISC 2 (HEAD AMP switch set to ON); 0.125mV, 100-ohm
TUNER/AUX/TAPE PLAY: 160mV, 47k-ohm
MAIN AMP INPUT: 1.3V, 47k-ohm

MAXIMUM INPUT FOR DISC INPUT: (0.005% THD)
DISC 1, 2 (without HEAD AMP); 300mV RMS at 1kHz
DISC 1, 2 (with HEAD AMP); 15mV RMS at 1kHz

OUTPUT LEVEL AND IMPEDANCE:
PREAMP. OUTPUT; 1.3V at rated input level, 200 ohms
TAPE REC. 1,2; 160mV at rated input level, 200 ohms

HEADPHONE JACK:
for listening with low impedance (4 – 32 ohms) dynamic stereo headphones

VOLTAGE AMPLIFICATION IN DECIBELS:

MAIN AMP INPUT to OUTPUT;	27.8dB
HIGH-LEVEL INPUT to PREAMP OUTPUT;	18.4dB
DISC INPUT to TAPE REC. (without HEAD AMP);	36dB
DISC INPUT to TAPE REC. (with HEAD AMP);	62dB

HUM AND NOISE:
MAIN AMP INPUT; 115dB below rated output, with IHF-A weighted
HIGH-LEVEL INPUT; 100dB below rated output, with IHF-A weighted
LOW-LEVEL INPUT (without HEAD AMP); 86dB below rated output, with IHF-A weighted
LOW-LEVEL INPUT (with HEAD AMP); 72dB below rated output, with IHF-A weighted

TONE CONTROLS:
10-step Rotary Switch for both channels with turnover frequency switches and ON/OFF switch.
Tone is varied in 2dB steps.
Bass; Turnover frequency 200Hz; ±10dB at 50Hz
Turnover frequency 500Hz; ±10dB at 100Hz
Treble; Turnover frequency 2,000Hz; ±10dB at 10kHz
Turnover frequency 7,000Hz; ±10dB at 50kHz

LOUDNESS COMPENSATOR: (Volume attenuation at –30dB)
COMP 1; +6dB at 50Hz
COMP 2; +9dB at 50Hz
COMP 3; +10dB at 50Hz, +4dB at 15kHz

SUBSONIC FILTER: 17Hz cutoff 12dB/oct.

ATTENUATOR: –20dB

POWER LEVEL METER: Peak Level Indication, calibrated to read 0 dB when amplifier produces 130 watts into 8 ohms load

OUTPUT LOAD IMPEDANCE: 4 to 16 ohms

SEMICONDUCTOR COMPLEMENT: 113 Tr's, 2 IC's, 18 FET's, 39 Di's

POWER REQUIREMENT: Voltage selector for 100, 117, 220, 240V 50/60Hz operation
Consumption: 100 watts at zero signal output
490 watts at rated power output into 8 ohms load

DIMENSIONS: 445mm(17-1/2 inches) wide, 160mm(6-5/16 inches) max.high
370mm(14-9/16 inches) deep

WEIGHT: 20 kgs. (44 lbs.) net, 24 kgs. (52.8 lbs.) in shipping carton

Accuphase

Accuphase KENSONIC LABORATORY INC.

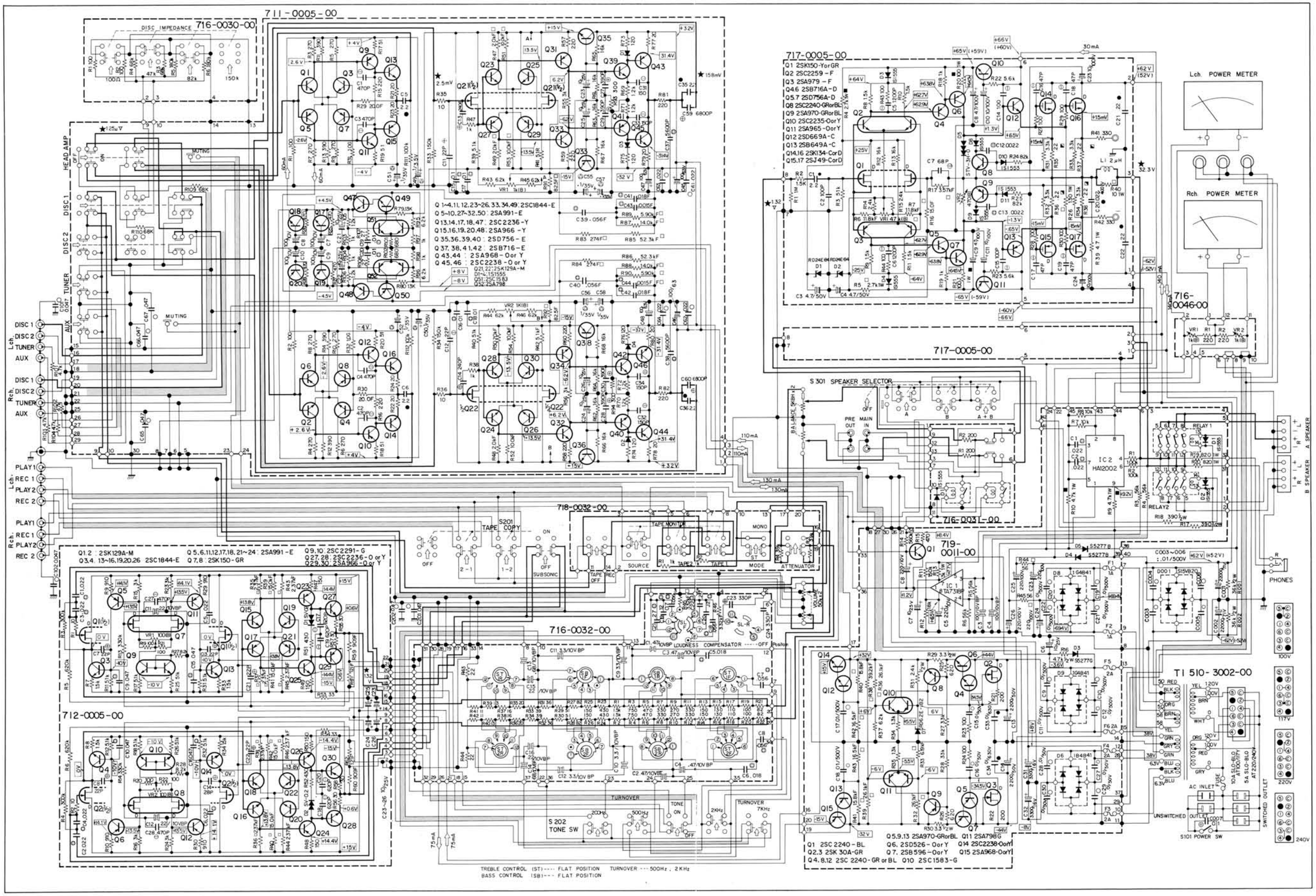
2124-6 MOTOISHIKAWA-CHO, MIDORI-KU, YOKOHAMA, JAPAN

0878－500 861－2018－00

E-303 SCHEMATIC DIAGRAM

NOTES

1. The heavy lines on the schematics denote the signal path.
2. Big spots denote the qround.
3. Push-button switch position indicates
   INPUT SELECTOR.....DISC1
   HEAD AMP.....ON
   SPEAKERS.....A
   TONE CONTROL.....OFF
   TAPE MONITOR.....SOURCE
   TAPE COPY.....OFF
   MODE.....STEREO
   SUBSONIC.....OFF
   ATTENUATOR.....OFF
   DISC IMP. 47kΩ
   TAPE REC.....OFF
4. The mark of capacitor and resistor on the schematics are....
   ○ CERAMIC CAPACITORS.
   ○ MICA CAPACITORS.
   ⊛ TANTALUM SOLID CAPACITORS.
   ● METALLIZED FILM CAPACITORS.
   ⊖ POLYSTYRENE FILM CAPACITORS.
   ⊙ HIGH PRECISION FILM CAPACITOR.
   ⊕ METALLIZED POLYPROPYLENE FILM CAPACITORS.
   □ METAL FILM RESISTORS.
   ■ OXIDE METAL FILM RESISTORS.
   ◩ METAL PLATE RESISTORS.
   Unless otherwise specified : Capacitors are ELECTROLYTIC types, Resistors are CARBON FILM type 1/4 watt and ±5% tolerance.
5. VOLTAGE : ▭ Operating with no input.
   ★ Indicates respective voltage reading when an input of 1kHz, 125μV is fed to "DISC 1" with Head Amp at ON.
6. CURRENT : ▭ Operating with no input.



Indicated values of parts in the schematic diagram may be changed in case of performance improvement.

(822-2018-00)